Accessible Signage Guidelines
Second Edition

www.blindfoundation.org.nz/signage
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Now incorporated in New Zealand Building Code
Section F8 Signs Acceptable Solution FS / AS1
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Endorsed by:

Braille Authority of New Zealand Aotearoa Trust
Association of Blind Citizens of New Zealand
Guide Dog Alliance (NZ) Inc.
Introduction

These guidelines recommend best practice for design of signage which is usable by blind and low-vision people, including those who are deafblind.

While there is currently no legislation in New Zealand requiring signage to be accessible to all users of a building or facility, these guidelines are now incorporated into the New Zealand Building Code (Section F8 Signs) as an acceptable solution to achieve compliance. New Zealand Standard 4121: 2001 (NZS4121) also provides guidance but is not detailed, particularly for braille and tactile signage. The New Zealand Disability Strategy aims to break down barriers and promote an inclusive society for all New Zealanders, but does not specifically mention accessible buildings.

The United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), ratified by our Government in 2008, mentions braille and tactile signage specifically. Article 9(2)d requires our Government to "Provide in buildings and other facilities open to the public signage in Braille and in easy to read and understand forms".

Following advocacy by the Blind Foundation and the Association of Blind Citizens of New Zealand (Blind Citizens NZ), braille signage has been legally required in taxis since October 2008 under the New Zealand Transport Agency (NZTA) rule 4.2(8) and 4.2(9). This has increased the safety, independence, dignity and confidence of braille readers who use taxis.

The following guidelines are recommendations from the Blind Foundation for clear signage in buildings or facilities, including braille, raised print and pictograms. They are based on NZS4121, legislation and standards from Australia, the United States of America and the United Kingdom. The draft guidelines were reviewed by several consumer organisations and individual blind and low-vision people. These guidelines have been officially endorsed by the Braille Authority of New Zealand Aotearoa Trust (BANZAT), the Association of Blind Citizens of New Zealand (Blind Citizens NZ) and the Guide Dog Alliance (NZ) Inc.

Good design means everyone benefits. People who use your building or facility may be blind, low-vision or deafblind. This means the only way they can access the vital information conveyed by building signage is by touch or by high contrast, clear print. Braille is a way of representing
letters of the alphabet using dots in combinations which do not look like raised print. Many older or newly blind people do not read braille, but would still be able to read raised print signs by touch. Braille is, however, the quickest way to get information for those who do read it, especially vital safety instructions. For those who are new braille readers or who have additional learning disabilities, raised print can be a useful backup to braille on signs. We therefore recommend that signs contain braille plus raised, high-contrast print.

The following guidelines will help you ensure the signage in your building or facility is readable to all who use it, including blind, deafblind and low-vision people.

Note that throughout these guidelines, the Blind Foundation uses the term 'low-vision', however some prefer terms such as vision-impaired or partially sighted.

The illustrations are not drawn to scale. They are examples only, and are not intended to represent all possible renderings. Please always refer to the text for exact measurements and specifications.
Where are accessible signs needed?

Accessible signs should be provided for any features of a building that would normally be given a print sign. NZS4121 states that signs have three functions:

1) Informative - advising about availability of facility or service;
2) Directional - directing to a specific facility;
3) Locational - identifying the place where the facility is provided.

We recommend that braille and high-contrast tactile print signage be provided in the following places. These are examples only and do not represent an exhaustive list.

- Toilets and showers – both general and specifically accessible facilities.
- Elevators – controls and floor indicators.
- Numbers on stair landing hand rails to allow identification of floors.
- Office and hotel room name/number plates.
- Emergency doors and exits.
- Emergency evacuation instructions.
- Cautionary signage.
- Floor and building directories.
- Door controls on public transportation vehicles – emergency and standard.
- Free telephones in shopping malls.
- Bus stop and train platform numbers.
- Signage in marae and places of worship.
- Operating instructions e.g. for vending machines or toilets.

Where detailed information is provided through signage, for example emergency evacuation instructions or building directories, consider providing this information separately in alternative formats such as braille with tactile diagrams, large print, accessible electronic text and audio. This allows building users to read and refer to the information when they are not standing directly next to the sign.
Guidelines for accessible signage

1. General

- Signs should be accessible to all users of the building or facility, including new braille learners, deafblind and low-vision people, and those with additional learning difficulties.

- The most accessible sign is one which contains braille, raised print and raised pictograms where appropriate (for example, male and female toilets). Always accompany any pictogram with print and braille text. Some readers will not know what the pictogram means without accompanying text.

- Where possible, braille, print and pictograms should be included on the same sign. Having multiple formats on one sign helps some readers clarify or confirm the meaning and strengthens the sign’s message.

- The braille should convey the same information as the print.

- Do not convey information solely through colour or images. Provide information in raised print and braille as well.

- Make signs clear and unambiguous. Keep text short and simple.

1.1 Placement

- Place signs at a consistent height and location around a building or facility.

- Place tactile signage where it can be reached easily without obstruction.

- Place signs logically and as close as possible to the object they are indicating. (e.g. place “push” near the door opening for easy location).

Note: The illustrations are not drawn to scale.
• Place signs at the entry point to corridors.

• In general, where a single sign contains both print and braille, place signs at a height of 1400-1600mm from floor level to the bottom of the sign. This is based on the optimum viewing height for people standing up and in wheelchairs.

• If braille is placed on a separate sign, this can be lowered to 1350mm from the finished floor to the bottom of the sign plate.

• Always place separate braille sign plates in a consistent location relative to the print sign.

• For playgrounds, primary schools, or other facilities where the main population is likely to be children, place the signs between 900-1200mm from floor level to the bottom of the sign plate.

• Avoid suspended signs – they are very difficult to locate and too high to be read by a low-vision person.

• Avoid protruding signs or sandwich boards – they are a safety hazard.

• If doors are generally left open (e.g. office doors), place the sign on the wall or glass, either latch-side or hinge-side, as near to the door as possible. Choose whichever side would be more logical and usable, and be consistent throughout the building.

Place signs at a consistent height and location around a building or facility. In this case the signs are to the left of each door.
• If doors are generally left closed (e.g. hotel room or toilet doors), place the sign on the door itself. Braille should be placed directly underneath pictograms or print numbers if they exist. Always include braille and print text as well as the pictogram. A pictogram alone is not enough.
• For elevator controls, place braille to the immediate left of the buttons (as per NZS4121).
1.2 Contrast

- Ensure that the sign visually contrasts with its background so that it can be located more easily by low-vision people. For example, on a light-coloured wall, use a sign with a dark background and light-coloured print. If a sign must be placed on a similar-coloured wall, use a thick border of contrasting colour to assist with location.

- For signs placed on glass, ensure that there is enough colour contrast between the sign and its background. A thick border of contrasting colour surrounding the sign may be helpful.

- Avoid placing signs on backgrounds which contain a lot of visual clutter – this can include general information such as posters, pictures and pamphlets that do not communicate orientation information.

- Ensure the sign is in an area with good lighting. Avoid creating shadows on areas of the sign. Task lighting can assist with location of the sign in poorly lit areas.

- Reflective glare will make the sign more difficult to read. Use non-reflective surfaces and ensure that lighting does not create glare on the sign.

1.3 Layout

- All text and braille on a sign should be left-aligned and set horizontally.

- Where print and braille appear on the same sign plate, place braille at least 8mm below the corresponding print.
• Use simple, consistent and logical layout.

• Avoid complicated images – keep the design simple with a plain background. Avoid too much information on one sign.

1.4 Durability and Maintenance

• Since most signage is intended to have a long life, choose durable materials which can be cleaned easily. The material should also be able to withstand heat and sunlight.

• Cardboard or adhesive braille labels are only suitable for temporary signage which may need to be moved frequently, for example office name plates. These materials can easily be pulled off or fade with time and use.

• If tactile elements of your signs have degraded over time, they should be replaced so that the signs remain readable.

2. Braille Signage

2.1 Technical Specifications

• Braille dots should have a domed or rounded shape – make sure they are not pointy or flat.

• The spherical radius of each dot should be 0.76-0.80mm.

• The base diameter of each dot should be 1.2-1.6mm.

• Each dot should have a height of 0.4-0.9mm.

• Horizontal and vertical inter-dot spacing within the same cell should be 2.29-2.54mm.

• Inter-dot spacing between adjacent cells should be 6.0-7.6mm.

• Vertical inter-dot spacing (from one cell to the cell below) should be 10-10.5mm.

Note: The illustration is not drawn to scale. Empty spaces between braille cells should be preserved or braille will be unreadable.

• The standard for braille in New Zealand is Unified English Braille.

• For braille signs of 10 words or fewer, use uncontracted braille.

• For floor directories, use uncontracted braille.
• For signs of greater than 10 words, use contracted braille only if the sign consists of sentences such as emergency evacuation instructions. Ensure contracted braille follows Unified English Braille rules.

• Generally, do not use capital letters in braille signs, except for emergency instructions which comprise sentences.

• If text is multi-lined, place all the braille a minimum of 8mm below the entire raised print text.

• For multi-lined braille text, a semi-circular braille indicator may be horizontally aligned with and placed directly before the first braille character. This indicator is not essential.

Some examples of suitable typefaces are Arial, Gill Sans, Clearview ADA, Agro Sans, Frutiger and Helvetica.

• Avoid using italics, stylised print, underlining and block capitals.

• Lettering should be in initial upper case. This helps with letter and word recognition.

• Always ensure the sign background contrasts with the print. Clear colour combinations include black text on a white background, white on black, yellow on black or black on yellow.

• Do not print information over pictures or patterns.

• Characters and their background should be non-reflective.

• For non-tactile print, the size of the text should be related to the distance at which the information is to be viewed. Letters should have a minimum height of 15mm. If signs will be viewed from more than 3m away, the text should have a height of 5mm for each metre of viewing distance. For example, if a sign is designed to be viewed from a 5m distance, text should have a height of 25mm.

3. Clear, Raised Print Signage

3.1 Readability by Sight

• The size, type and layout of lettering on signs must be clearly legible.

• Use a clear, simple sans serif typeface with uniform stroke width, wide horizontal proportions and distinct letter forms, including prominent ascenders and descenders and open counterforms.

3.2 Readability by Touch

• Raised letters should have soft-shouldered edges.

• Letters should be raised from the surface.
of the sign plate by at least 1mm.

- Letter height should be 15-50mm, that is approximately 48-144pt.
- Minimum spacing between letters should be 2mm.
- Minimum spacing between words should be 10mm.
- Letter stroke thickness should be 2-7mm.
- Do not use engraved print letters. These can be very difficult to read by touch.
- Raised borders and elements should be 10mm minimum from tactile characters.

4. Pictograms

- When using pictograms for features like exits or male/female toilets, use internationally recognised symbols.
- Make sure pictograms are always accompanied by raised print and braille. The pictogram is not sufficient on its own – some people will not know what the picture means.
- If using the International Symbol of Access, make sure it conforms to that shown in Appendix E of NZS4121.
- Raised arrows can be used to indicate direction. These should appear either at the beginning of a line of text or directly after the text label. Avoid large spaces between arrows and their labels. Where braille is on a separate sign plate, a small raised arrow should be horizontally aligned with the braille, either directly before or after the braille text.
- Always ensure the sign background contrasts with the pictogram. Clear colour combinations include black text on a white background, white on black, yellow on black or black on yellow.
- Raised pictograms should have soft-shouldered edges, and should be raised from the surface of the sign plate by 1mm.
5. Te Reo Māori

- Te Reo Māori uses the same basic alphabet as English braille.

- We encourage the use of Māori braille on signage alongside English braille.

- Use uncontracted braille in all instances except for 'wh', which should be written as dots 1-5-6. You can achieve this by typing a colon : and applying the braille font. The symbol should look like this :

- Use the macron where appropriate. The macron symbol used in New Zealand is dots 4-5-6 directly before the relevant letter. You can achieve this by typing an underline symbol _ and applying the braille font. The symbol should look like this :

- Please follow all other guidelines regarding placement, spacing and capitalisation.

- If using the International Symbol of Access, make sure it conforms to that shown in Appendix E of NZS4121.

Sample Words

whare

\[ wh\ ]

tuāpāpā

\[ tu\ ]
Appendix 1.
Frequently asked questions

Q: How can I produce braille signs?

A: This depends on the types of sign you are producing, where they are to be placed and your budget.

For signs intended to have a long life, such as lift controls, toilet signs, floor directories and hotel room door numbers, we recommend using a signage company which specialises in producing braille signs on various types of material. These signs can be cleaned easily and will be more durable. Signage companies produce these using a variety of processes which include:

- Punching small holes into the signage plate and inserting ball bearings. These do not fall out because very precise machinery is used which measures the hole and its ball bearing exactly.

- A process whereby everything but the braille dots or other raised images is removed from the sign. This leaves the raised portions standing up.

- A process using ink to build up the braille dots. This only works on certain materials.

For less permanent signage such as office name plates (where staff change frequently), you can produce the braille using a dymo labeller or a Perkins Brailler on adhesive labels. These will not last as long but are suitable in certain circumstances if the sign is of a temporary nature.

Q: Can I import my braille signage?

A: We encourage you to use New Zealand signage companies who make accessible signage locally. A list of these companies can be found at www.blindfoundation.org.nz

If you do want to import your signs, you need to be aware that some imported signs fall outside the guidelines we recommend. For example, braille signs produced in Japan, Korea, Italy and Sweden use slightly smaller dots and spacing, which can be very difficult to read by those not used to this size of braille. Signs imported from the United States of America may be in contracted braille, which does not comply with our guidelines. Please check the specifications of all imported signs to ensure that they comply with our standards and follow Unified English Braille rules.
Q: What's the difference between uncontracted and contracted braille?

A: Uncontracted braille consists of the alphabet, punctuation and numbers. One letter of print equals one letter of braille. There are two exceptions to this:

1. Capital letters are formed by putting an extra dot or dots in front of the letter or word being capitalised.

2. A number sign is placed in front of a single number or groups of digits such as a phone number. The letters a to j are used for the numbers 1 to 0, and the number sign tells the reader to interpret them as numbers.

Contracted braille consists of additional signs which represent commonly used groups of letters, such as 'the' or 'er'. These save space and speed up reading. New braille learners typically learn uncontracted braille first, and may not wish to learn contracted braille. Experienced child and adult braille readers read contracted braille easily.

In New Zealand, the standard for contracted braille is Unified English Braille. If you are using machinery which contains automated braille translation software, it needs to be set to Unified English Braille if you are producing contracted braille signage.

The machinery should also have an option for uncontracted braille if you are producing uncontracted braille signage. If you are not using machinery, you will need a PDF containing the braille which you can emboss onto the sign plate. The Blind Foundation can produce this for you. A list of signage companies known to us is also available on our website www.blindfoundation.org.nz

Q: Is there anything I need to be aware of when producing braille numbers?

A: Yes. Braille numbers have a number sign in front of them (see the previous question). If your automated braille translation software does not have an option for braille numbers, you will need to contact the Blind Foundation or your machine manufacturer for advice on how to do this.

Q: Does all my signage need to be accessible?

A: We encourage you to have as many accessible signs in your buildings as possible. For best practice, a minimum requirement would be accessible signs for all toilets and lifts.

Q: Where can I get more detailed information on braille?

A: Please contact the Blind Foundation Braille Awareness Consultant by phoning 0800 24 33 33 or by emailing braille@blindfoundation.org.nz
References


- **Building Code of Australia (Section D3.6) (2008)**, Australian Building Codes Board.

- **Building Sight**: A handbook of building and interior design solutions to include the needs of visually impaired people (1995), Royal National Institute for the Blind.

- **Braille cell dimensions** (2009), Royal National Institute of Blind People. Accessed online at: www.tiresias.org/research/reports/braille_cell.htm


- **Design Resources DR-11 Text Legibility and Readability of Large Format Signs in Building and Sites** (2010), Center for Inclusive Design and Environmental Access, University at Buffalo School of Architecture and Planning.


- **New Zealand Disability Strategy** (2001), Minister for Disability Issues.


- **Size and Spacing of Braille Characters** (2010), Braille Authority of North America: www.brailleauthority.org/sizespacingofbraille
Accessible Signage Check List

Braille
- Dot shape, size and height (p8)
- Distance between dots, cells and lines (p8)
- Uncontracted Unified English Braille without capitals, includes numbers (p8, p9, p13)
- Braille same as print (p4)
- Macron and wh for Maori (p11)
- Multi-lined braille and indicator (p9)
- Imported signage compliance (p12)

Tactile Print, Arrows, Indicators, Borders, Pictograms
- Soft-shoulders for raised letters (p9) and pictograms (p10)
- Pictograms accompanied by equivalent print and braille (p10)
- Pictograms use standard symbols (p10)
- Letter size and height from surface (p9, p10)
- Letter stroke thickness (p10)
- Font style (p9)
- Distance between letters and words (p10)

- Distance away from braille and other tactile elements (p7, p10)
- Capitalisation (p9)

Non-Tactile Print
- Font size and style (p9)
- Capitalisation (p9)

Contrast, Layout, Durability and Placement
- Contrast and glare (p7, p9, p10)
- Background (p9)
- Braille and print left justified (p7)
- Braille below print (p7)
- Durable materials used (p8)
- Placement of sign (pp4-7)